PO Job Risk Assessment

Name(s) of Risk Team Members: C. Petrovic, B. Ocko, Yugang Cai, S. Shapiro (facilitator)	**Point Value → Parameter ↓**	**1**	**2**	**3**	**4**	**5**
Job Title: Working with Hazardous Chemicals **Job Number or Job Identifier: PO-JRA-010**	**Frequency (B)**	**≤once/year**	**≤once/month**	**≤once/week**	**≤once/shift**	**>once/shift**
Job Description: Physics working and handling chemicals with the following hazards: Carcinogens, Highly acute Toxin, Reproductive toxins, Corrosives, Strong Oxidizers, Highly Reactive Materials, Perchlorates, Oils, Explosives, Peroxide forming, Pyrophoric Materials, PCBs, Pesticides/herbicides, Asbestos, & Controlled substances	**Severity (C)**	**First Aid Only**	**Medical Treatment**	**Lost Time**	**Partial Disability**	**Death or Permanent Disability**
Training and Procedure List (Optional):	**Likelihood (D)**	**Extremely Unlikely**	**Unlikely**	**Possible**	**Probable**	**Multiple**
Rev. #: **0** Date: **April 21, 2005**						
Stressors (if applicable, please list all): Environmental temperature, time restraints		**Reason for Revision (if applicable):**			**Comments:**	

				Before Additional Controls							**After Additional Controls**					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Storing containers	Fire; Explosion; spill; chemical reactions; exposure via inhalation	Segregation of hazard types; flammable and acid cabinets; CMS; work planning; procedures; PPE; area monitoring; personnel monitoring; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; area posting; shelf-life monitoring; containers specific for the hazard	Y	1	5	3	1	15								
Moving containers within the lab	Spillage via tripping/dropping	CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; secondary containment; spill response; hazardous waste controls; Tier 1; container labeling; containers specific for the hazard	N	1	5	2	2	20								

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Measuring chemicals-pipeting; balances; filling sample cells, etc.	Spillage; exposure to vapors, mists, dusts	Drop pads; CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; area posting; containers specific for the hazard	N	1	5	2	2	20								
Mixing, reacting; & synthesizing hazardous substances	Uncontrolled reactions; exothermic reaction; explosions; exposure to vapors, mists, dusts; creation of unknown hazards	SBMS WWC; CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; container labeling; area posting; reactions vessels specific for the hazard	Y	1	5	3	2	30								

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Distilling of hazardous substances	Uncontrolled reactions, exothermic reaction, exposure to vapors, mists, dusts	SBMS WWC; CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; area posting; reactions vessels specific for the hazard	N	1	1	4	2	8								
Using controlled substances	Exposure to vapors, mists, dusts	SBMS Controlled Substances plus all controls of hazardous chemicals	N	1	1	3	1	3								
Analysis by instrumentation such as HPLC, GC, ICP, AA, MS, electrodes, thermometer	Exposure to vapors, mists, dusts	SBMS WWC; CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; container labeling; area posting; containers specific for the hazard	N	1	4	2	2	16								

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Handling, storing, testing, and distilling peroxide forming compounds	Rupture of container; exposure to vapors; explosion; spillage via tripping/dropping	Periodic testing as per SBMS WWC; CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; shelf-life monitoring; containers specific for the hazard	N	1	2	4	2	16								
Handling, storing, testing pyrophoric compounds	Rupture of container; exposure to vapors, dust, mists, fumes; fire; spillage via tripping/dropping	CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; shelf-life monitoring; containers specific for the hazard	N	1	2	4	2	16								

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Handling, storing, testing sensitizers & acute toxins	Exposure to vapors; dust, mists, fumes; fire; spillage via tripping/dropping	CMS, work planning, procedures; PPE; area monitoring; personnel monitoring; use of small volumes; ventilation; secondary containment; spill response; hazardous waste controls; use of safer substitutes; Tier 1; container labeling; area posting; containers specific for the hazard	N	1	2	4	3	24								
Transporting of chemicals to other locations within a building	Spillage via tripping/dropping; exposure to vapors, mists, dusts	Work planning, procedures; PPE; use of small volumes; secondary containment; spill response; hazardous waste controls; use of safer substitutes; container labeling; containers specific for the hazard	Y	1	4	2	2	16								
Transporting of chemicals to other locations outside a building but within BNL	Spillage via tripping/dropping; exposure to vapors, mists, dusts	Work planning, procedures; PPE; use of small volumes; secondary containment; spill response; hazardous waste controls; use of safer substitutes; container labeling; containers specific for the hazard	Y	1	2	2	2	8								

PO Job Risk Assessment

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Transporting of chemicals to other locations outside of BNL	Spillage via tripping/dropping; exposure to vapors, mists, dusts	Work planning, procedures; PPE; use of small volumes; secondary containment; spill response; hazardous waste controls; use of safer substitutes; container labeling; containers specific for the hazard; DOT regulations	Y	1	2	2	2	8								
Further Description of Controls Added to Reduce Risk:																

***Risk:**	**0 to 20 Negligible**	**21 to 40 Acceptable**	**41 to 60 Moderate**	**61 to 80 Substantial**	**81 or greater Intolerable**